

Serial No. 09/414,104

-2-

Docket No. 1232-4578

Amendment dated March 20, 2006

Reply to Final Office Action of December 22, 2005

IN THE CLAIMS

Claims 1-45 are pending in this application. Claims 1, 23, 38 and 40 are independent.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 (CURRENTLY AMENDED): An electronic device comprising:

a first system controller configured to control the electronic device with an operating system; and

a second system controller, which, in response to a turn-on operation of a power source, controls a drive operation for extending extends a lens barrel having a lens from a collapsed position, starts supplying power to said first system controller, and operates independently of said first system controller,

wherein said second system controller continues extending the lens barrel ~~is driven to be extended from the collapsed position by said second system controller in parallel with an operation that a drive signal is supplied to~~ while said first system controller ~~after a power source is turned on~~ launches the operating system in response to a start of the power source.

2 (CURRENTLY AMENDED): The electronic device according to claim 1, wherein said first system controller is a central processing unit, and wherein in said first system controller drive signal operation, immediately after turning on of the power source to said first system controller, said first system controller starts ~~an OS (Operation System)~~ the operating system, and operates a control application program.

Serial No. 09/414,104

-3-

Docket No. 1232-4578

Amendment dated March 20, 2006

Reply to Final Office Action of December 22, 2005

3 (PREVIOUSLY PRESENTED): The electronic device according to claim 1, wherein if the completion of the first system controller drive signal operation has not been notified within a predetermined period since the turning on of the power source to said first system controller, said second system controller returns said first system controller to a status before the power source was turned on to said first system controller, and turns off the power source to said first system controller.

4 (PREVIOUSLY PRESENTED): The electronic device according to claim 3, wherein said predetermined period is longer than a period from turning on of the power source to said first system controller to normal completion of the first system controller drive signal operation.

5 (PREVIOUSLY PRESENTED): The electronic device according to claim 1, further comprising an operation unit which inputs an operation instruction to the electronic device, wherein if no operation instruction has been inputted by said operation unit within a predetermined period, said second system controller returns said lens barrel to a status before the power source was turned on to said first system controller, and turns off the power source to said first system controller.

6 (ORIGINAL): The electronic device according to claim 1, wherein said second system controller is a central processing unit and is always powered.

7 (PREVIOUSLY PRESENTED): The electronic device according to claim 6, wherein said second system controller controls the power source to said first system controller.

8 (ORIGINAL): The electronic device according to claim 1, wherein said second system controller is a hard-wired logic circuit.

980422 v1

Serial No. 09/414,104

-4-

Docket No. 1232-4578

Amendment dated March 20, 2006

Reply to Final Office Action of December 22, 2005

9 (ORIGINAL): The electronic device according to claim 1, wherein said first system controller has a processing speed faster than that of said second system controller.

10 (ORIGINAL): The electronic device according to claim 1, wherein electric consumption of said second system controller is lower than that of said first system controller.

11 (ORIGINAL): The electronic device according to claim 1, wherein the electronic device is a digital still camera.

12 (PREVIOUSLY PRESENTED): The electronic device according to claim 11, wherein said lens barrel protects the optical system of the digital still camera.

13 (PREVIOUSLY PRESENTED): The electronic device according to claim 12, wherein said second system controller opens said lens barrel in parallel to the first system controller drive signal operation on the overall device.

14 (PREVIOUSLY PRESENTED): The electronic device according to claim 11, wherein said lens barrel includes a collapsible barrel of the digital still camera.

15 (PREVIOUSLY PRESENTED): The electronic device according to claim 14, wherein said second system controller extends said collapsible barrel in parallel to the first system controller drive signal operation on the overall device.

16 (PREVIOUSLY PRESENTED): The electronic device according to claim 1, wherein the electronic device has an in-use status and a non-use status different from each other, and wherein said second system controller controls said lens barrel in parallel to the first system controller

980422 v1

Serial No. 09/414,104

-5-

Docket No. 1232-4578

Amendment dated March 20, 2006

Reply to Final Office Action of December 22, 2005

drive signal operation on the overall device, so as to cause the device to enter the in-use status from the non-use status.

17 (PREVIOUSLY PRESENTED): The electronic device according to claim 16, wherein the electronic device is a digital still camera and comprises an image sensing lens as said lens.

18 (ORIGINAL): The electronic device according to claim 17, wherein when the device is not used, the device is in an image sensing disabled status in which said image sensing lens is collapsed into a camera main body.

19 (ORIGINAL): The electronic device according to claim 17, wherein when the device is used, the device is in an image sensing enabled status in which said image sensing lens is extended from a camera main body to a wide-angle side position.

20 (PREVIOUSLY PRESENTED): The electronic device according to claim 17, wherein said lens barrel protects said image sensing lens.

21 (PREVIOUSLY PRESENTED): The electronic device according to claim 20, wherein when the device is used, the device is in an image sensing enabled status in which the lens barrel that protects said image sensing lens is opened.

22 (PREVIOUSLY PRESENTED): The electronic device according to claim 20, wherein when the device is not used, the device is in a image sensing disabled status in which the lens barrel that protects said image sensing lens is closed.

23 (CURRENTLY AMENDED): A method for controlling an electronic device having a first system controller configured to control the electronic device with an operating system and a

980422 v1

Serial No. 09/414,104

-6-

Docket No. 1232-4578

Amendment dated March 20, 2006

Reply to Final Office Action of December 22, 2005

second system controller, which, in response to a turn-on operation of a power source, extends that controls a drive operation for extending a lens barrel having a lens from a collapsed position, starts supplying power to said first system controller, and operates independently of said first system controller, said method comprising the steps of:

~~driving the lens barrel to be extended from the collapsed position by said second system controller; and~~

~~supplying a drive signal to said first system controller;~~

~~wherein said driving step and said supplying step are performed in parallel after a power source is turned on~~

continuing extending the lens barrel while said first system controller launches the operating system in response to a start of the power source.

24 (PREVIOUSLY PRESENTED): The method according to claim 23, wherein said first system controller is a central processing unit, and wherein at said supplying step, an OS (Operating System) is started and a control application program is operated after turning on of the power source to said first system controller.

25 (PREVIOUSLY PRESENTED): The method according to claim 23, further comprising:

a step of returning said lens barrel to a status before the power supply was turned on to said first system controller if the completion of the driving step has not been notified from said second system controller within a predetermined period since turning on of the power source to said first system controller; and

a step of turning off the power source to said first system controller.

980422 v1

Serial No. 09/414,104

-7-

Docket No. 1232-4578

Amendment dated March 20, 2006

Reply to Final Office Action of December 22, 2005

26 (PREVIOUSLY PRESENTED): The method according to claim 25, wherein said predetermined period is longer than a period from turning on of the power source to said first system controller to normal completion of the driving step by said second system controller.

27 (PREVIOUSLY PRESENTED): The method according to claim 23, wherein the electronic device further comprises an operation unit which inputs an operation instruction to the electronic device, the method further comprising:

a step of returning said lens barrel to a status before the power source was turned on to said first system controller if no operation instruction has been inputted within a predetermined period; and

a step of turning off the power source to said first system controller.

28 (ORIGINAL): The method according to claim 23, wherein the electronic device is a digital still camera.

29 (PREVIOUSLY PRESENTED): The method according to claim 28, wherein said lens barrel protects an optical system of the digital still camera, and wherein at said supplying step, said lens barrel is opened.

30 (PREVIOUSLY PRESENTED): The method according to claim 28, wherein said lens barrel includes a collapsible barrel of the digital still camera, and wherein at said supplying step, said collapsible barrel is extended.

31 (PREVIOUSLY PRESENTED): The method according to claim 23, wherein the electronic device has an in-use status and a non-use status different from each other, and wherein at said

980422 v1

Serial No. 09/414,104

-8-

Docket No. 1232-4578

Amendment dated March 20, 2006

Reply to Final Office Action of December 22, 2005

supplying step, control to cause the device to enter the in-use status from the non-use status is performed.

32 (PREVIOUSLY PRESENTED): The method according to claim 31, wherein the electronic device is a digital still camera, and comprises an image sensing lens as said lens.

33 (ORIGINAL): The method according to claim 32, wherein when the electronic device is not used, the device is in the non-use status in which said image sensing lens is collapsed in a camera main body.

34 (ORIGINAL): The method according to claim 32, wherein when the electronic device is used, the device is in the in-use status in which said image sensing lens is extended from a camera main body to a wide-angle side position.

35 (PREVIOUSLY PRESENTED): The method according to claim 32, wherein said lens barrel protects said image sensing lens.

36 (PREVIOUSLY PRESENTED): The method according to claim 35, wherein when the electronic device is used, the device is in the in-use status in which the lens barrel that protects said image sensing lens is opened.

37 (PREVIOUSLY PRESENTED): The method according to claim 35, wherein when the electronic device is not used, the device is in the non-use status in which the lens barrel that protects said image sensing lens is closed.

38 (CURRENTLY AMENDED): A computer program product comprising a computer usable medium having computer readable program code means embodied in said medium for

980422 v1

Serial No. 09/414,104

-9-

Docket No. 1232-4578

Amendment dated March 20, 2006

Reply to Final Office Action of December 22, 2005

controlling an electronic device having a first system controller configured to control the electronic device with an operating system and a second system controller, which in response to a turn-on operation of a power source, extends that controls a drive operation for extending a lens barrel having a lens from a collapsed position, starts supplying power to said first system controller, and operates independently of said first system controller, said product including:

~~first computer readable program code means for continuing extending the lens barrel while said first system controller launches the operating system in response to a start of the power source driving the lens barrel to be extended from the collapsed position by said second system controller; and~~

~~second computer readable program code means for supplying a drive signal to said first system controller;~~

~~wherein said driving step and said supplying step are performed in parallel after a power source is turned on.~~

39 (PREVIOUSLY PRESENTED): The computer program product according to claim 38, wherein the electronic device has an in-use status and a non-use status different from each other, and wherein at said supplying step, control to cause the device to enter the in-use status from the non-use status is performed.

40 (CURRENTLY AMENDED): An image sensing apparatus comprising:

image sensing means for converting an optical image of an object to electric signals and outputting the electric signals;

control means for controlling the image sensing device with an operating system;

Serial No. 09/414,104

-10-

Docket No. 1232-4578

Amendment dated March 20, 2006

Reply to Final Office Action of December 22, 2005

mechanical drive means, in resposne to a turn-on operation of a power source, for extending a lens barrel having a lens from a collapsed position, for starting supplying power to said control means, and for operating independently of said control means;

signal processing means for generating image signals by processing the electric signals outputted from said image sensing means;

file system means for storing the image data generated by said signal processing means to a storage medium; and

~~control means for simultaneously starting initializations of said mechanical drive means, said signal processing means, and said file system means in response to turning on of the image sensing apparatus;~~

~~wherein each of the initializations of said mechanical drive means, said signal processing means, and said file system means does not require a control signal from each other~~
said mechanical drive means continues extending the lens barrel while said control means launches the operating system in response to a start of the power source.

41 (ORIGINAL): The image sensing apparatus according to claim 40, wherein initialization of said file system means controlled by said control means includes an operation of obtaining information on said storage medium from said storage medium.

42 (ORIGINAL): The image sensing apparatus according to claim 41, wherein the information in said storage medium includes at least one of storage medium type, entire capacity of the storage medium, capacity in current use, current available capacity, the file format, current latest file information.

980422 v1

Serial No. 09/414,104

-11-

Docket No. 1232-4578

Amendment dated March 20, 2006

Reply to Final Office Action of December 22, 2005

43 (PREVIOUSLY PRESENTED): The image sensing apparatus according to claim 40, wherein said mechanical drive means includes at least either of a lens drive unit or an exposure drive unit.

44 (ORIGINAL): The image sensing apparatus according to claim 40, wherein said control means adopts by a real time multi task monitoring system for performing various initialization operation.

45 (ORIGINAL): The image sensing apparatus according to claim 41, wherein said control means simultaneously performs the initialization by performing data transmission from said storage medium by said file system means at the initialization by direct memory access (DMA), and performing initialization of said mechanical drive means and signal processing means during idle time of the DMA.